The Renovator

A Pentagon Renovation Program Newsletter

Vol. 7, No. 3 Summer 2002

ERASED BUT NOT FORGOTTEN

Pentagon Exterior Work Complete!

On the outside, the Pentagon is whole again, erasing any sign of the damage caused by the September 11 terrorist attack. On June 11, 2002, Deputy Secretary of Defense Paul Wolfowitz placed the last of approximately 4,000 pieces of historic limestone on the Pentagon's western facade.

Deputy Secretary of Defense Paul Wolfowitz addresses the crowd of several hundred construction workers before handing the dediciation capsule to Pentagon Renovation Program Manger, Lee Evey (second from right). Below, the capsule is placed in the wall.

During a ceremony to mark the occasion, Wolfowitz handed a bronze dedication capsule to Pentagon Renovation Program Manager, Lee Evey, to place inside the wall behind the final piece of limestone. The dedication capsule holds reminders of the events of September 11th and the united spirit of the American people. Charles S. Abel, Assistant Secretary of Defense for Force Management Policy explains, "The dedication capsule is our way of remembering and memorializing the victims and the events of September 11th and to recognize the good works of the many dedicated people on the construction crews who've helped us reconstruct the Pentagon so quickly and so well." The capsule holds such items as handmade letters to Pentagon personnel from school children, patches and badges from fire, rescue and police departments who responded on September 11th, a Phoenix Project patch worn by the construction workers, a signed photo of President Bush taken during his visit to the Pentagon on September 12th, and the

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Pentagon Exterior Work Complete

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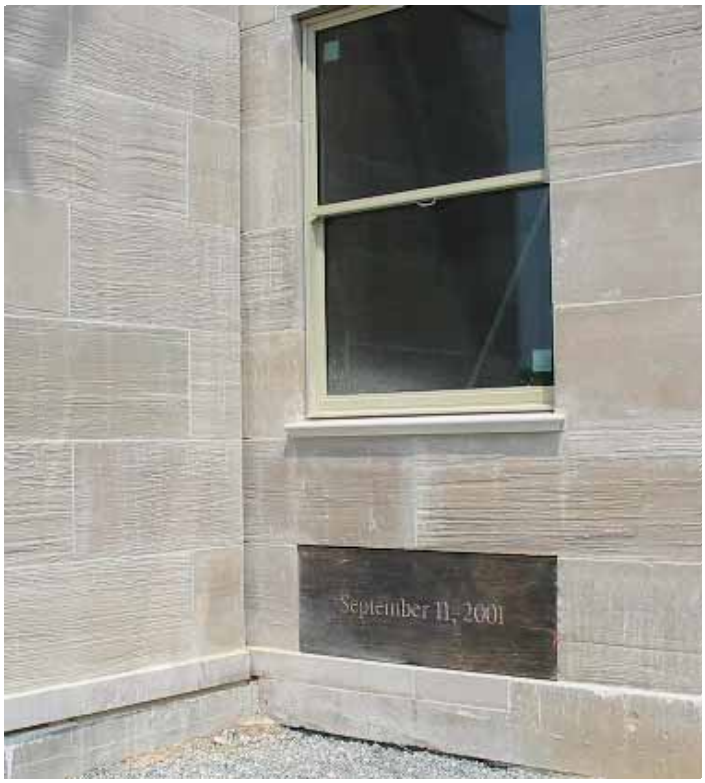


Completing the outer facade, the charred piece of limestone is the only exterior reminder of the attack.

An office on the E-ring of the second floor, directly at the point of impact, is prepared for reoccupation by September 11, 2002.

names of the 184 deceased victims of the attack. Unlike a time capsule, the dedication capsule is not intended to be opened at a later date. "We don't intend to dig this out at any specific date in the future and have it available for historians and the curious. We just expect it to be there to commemorate the victims and the rebuilding effort and the war on terrorism" said Abel.

During his remarks, Wolfowitz noted, "Today, we'll finish one important part of that remarkable transformation. We will restore to its rightful place a block of Indiana limestone that builders first placed here six decades ago." The original 1941 stone was removed from the building after the attack. Blackened and scarred, the final stone is the single piece of visible evidence from the attack remaining on the outside of the building. In stark contrast to the new Indiana limestone, the charred stone is inscribed with the date "September 11, 2001."

At a press conference held the afternoon of June 11, Evey discussed the progress being made towards the reconstruction of the Pentagon. "For 273 days, every single night, we've had spotlights on the outside of the building. In many instances, we had people working up on the side of that building in those spotlights. Tonight, the lights go off. The story outside the building is over. The story now moves to the inside of the building. That's where the challenge is. That's where our story will be told. And that's where our success must be achieved." Reconstruction work continues inside the Pentagon 20 hours a day, 6 days a week to meet the Pentagon Renovation Program's goal of reoccupying the E-ring offices at the point of impact by September 11, 2002.

Please visit
the Pentagon Renovation
Program web site for more
information about the progress
of the Phoenix Project.

http://renovation.pentagon.mil

June 11, 2002, Phoenix Project personnel and members of the press surround Deputy Secretary of Defense Paul Wolfowitz and Pentagon Renovation Program Manager, Lee Evey, while inside work continues on the elevators (top) and terrazzo floors (bottom).

WEDGE 2 RENOVATION ADVANCES,

ON COST, ON SCHEDULE AND BUILT FOR THE NEXT 50 YEARS

Pentagon personnel travel through the Wedge 1-2 Connector (above), protected from the work taking place behind the walls (below).

Commonly referred to as "Wedge 1-2 Connector," the second floor A-ring bypass passageway from Corridor 6 to Corridor 4 allows Pentagon personnel to pass safely through Wedge 2 construction on their way to the brightly lit corridors, the smooth ride of the escalators and the popular new cafeteria in Wedge 1.

Opened in January 2002, the connector provides a safe, uninterrupted connection along the Pentagon's most frequently traveled corridor. Following the September 11 attack and the resulting displacement of 4,600 Pentagon tenants, Wedge 2 was reconfigured to return desperately needed office space to displaced Pentagon personnel responsible for planning and executing the war effort. Barrier walls separate the loud, dusty and dangerous demolition and construction work from the occupied areas of Wedge 2 off of Corridor 6. Demolition of approximately 300,000 square feet, half the size of the originally planned area of Wedge 2, began on December 19, 2001. Wedge 2 demolition included complete removal of the existing infrastructure down to the Pentagon's "bare bones". Only the concrete columns and floor slabs remained. The abatement of hazardous materials including lead, asbestos, mercury and PCBs required careful attention to health and safety regulations. This was especially difficult in the areas affected by the terrorist attack and had to be completed quickly to begin the demolition of the Phoenix Project. Wedge 2 demolition was complete and construction began in late May 2002.

Wedge 2 Design Enhancements Universal Space Plan (USP) Lab

Test-bed, prototype, concept - these are terms used to describe the Universal Space Plan (USP) Laboratory implemented in Wedges 2-5. USP is one way the Pentagon Renovation Program will advance its schedule by four years, completing the renovation of the Pentagon in 2010 rather than 2014. Under the USP, Pentagon offices will be constructed as generically as possible with a very robust infrastructure, capable of meeting the requirements of any Pentagon tenant who may one day occupy that space. The Universal Space plan can accommodate all standard DoD office configurations. The offices are configured using open office bays, enhanced natural lighting, "smart walls" and free-standing furniture. "Smart walls are permanently constructed walls that provide a rigid yet easily reconfigured space," said Darryl Henderson, Pentagon Renovation Tenant Coordinator and Space Planner. "The Universal Space Plan modernizes the condensed cubicle office environment by adapting innovative office configurations using free standing furniture and smart walls."

Smart Wall Stats:

- A 66" permanent wall
- Rigid yet easily reconfigured
- Contains all power and data requirements
- Mechanical and electrical feeds accessed from exterior aisles - no need to interrupt tenant operations for maintenance
- Demountable enclosure partitions: Optional 4'x4' glass or solid partitions
- Used in conjunction with free standing furniture - easily moved and reconfigured to all open and closed workstation types

The USP lab is 10,000 square feet of office space in Wedge 2 that has been modified and rebuilt several times as design concepts were developed and tested. The Wedge 2-5 design-build team including prime contractor Hensel Phelps Construction and Studios Architecture developed this innovative design lab that reintroduces components reminiscent of the building's original design and purpose including open office bays and use of enhanced natural lighting. The USP lab provides a testing bed where decision makers can see the concepts evolve first hand and test the practicality of their decisions before implementing them on a larger scale.

A completed smart wall with a transparent in-fill panel (above) allows for privacy and maximum exposure to natural light.

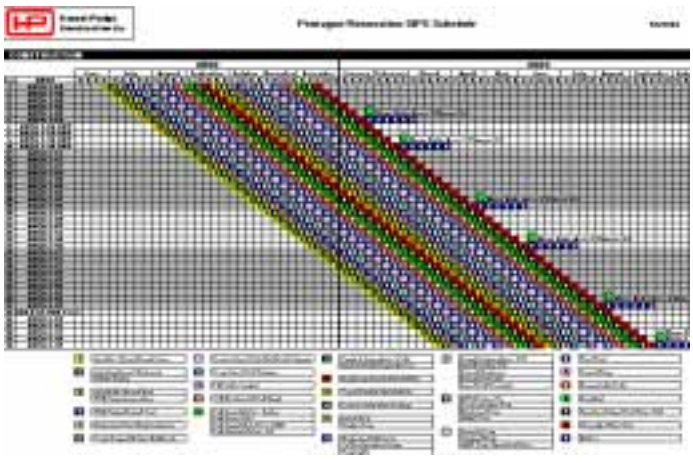
Workers quickly put together a sample office configuration using the free-standing furniture in the USP Lab.

SIPS was tested in the USP Lab (above) to determine the best sequence for each trade to complete their task.

Wedge 2 Scheduling Enhancements Short Interval Production Schedule (SIPS)

SIPS, or short interval production schedule, is the method of construction the Wedges 2-5 design-build team has been developing since March 2002 to complete the renovation of the Pentagon four years earlier than previously anticipated. SIPS techniques have been traditionally used to construct buildings that require a great deal of repetitive activities, such as high rise office buildings, apartments and hotels. It brings a production line approach to construction. With over 4.5 million square feet of office space remaining to undergo renovation, the Pentagon was a viable candidate for this technique. Each wedge will be divided into areas of approximately 10,000 square feet. Each individual trade is allowed five days to complete their particular task before moving on to the next 10,000 square foot area. The sprinkler mains will be installed first, followed by additional plumbing work, the HVAC installation, electrical work, etc. The first area will be complete in 26 weeks with the remaining areas following every week thereafter. The SIPS schedule was tested in the USP Lab to determine the most efficient order for each segment of construction to take place. SIPS began in the A and B-rings on the fifth floor of Wedge 2 on June 24, 2002.

One of a variety of sample office configurations in the USP Lab (left). The SIPS process takes 26 weeks to complete a 10,000 square foot area. The schedule below demonstrates the waterfall effect this has on the completion of a wedge with an additional 10,000 square feet being completed every week thereafter.



...AND ALL THE REST

Ancillary projects to the Pentagon Renovation Program play a vital, often overlooked role in the renovation of the nation's military headquarters

"We are the 'firefighters.' If its gotta be done, and done quickly, then we're the ones who do it," says John Woodson, the Pentagon Renovation Program's Ancillary Projects Team Leader. Sitting in his office in a trailer by the East Loading Dock, Woodson is surrounded by pictures and diagrams of areas of the Pentagon Reservation that get little day-to-day attention from employees or visitors. But the Ancillary Project team is tasked with becoming intimately familiar with these areas, usually in a hurry.

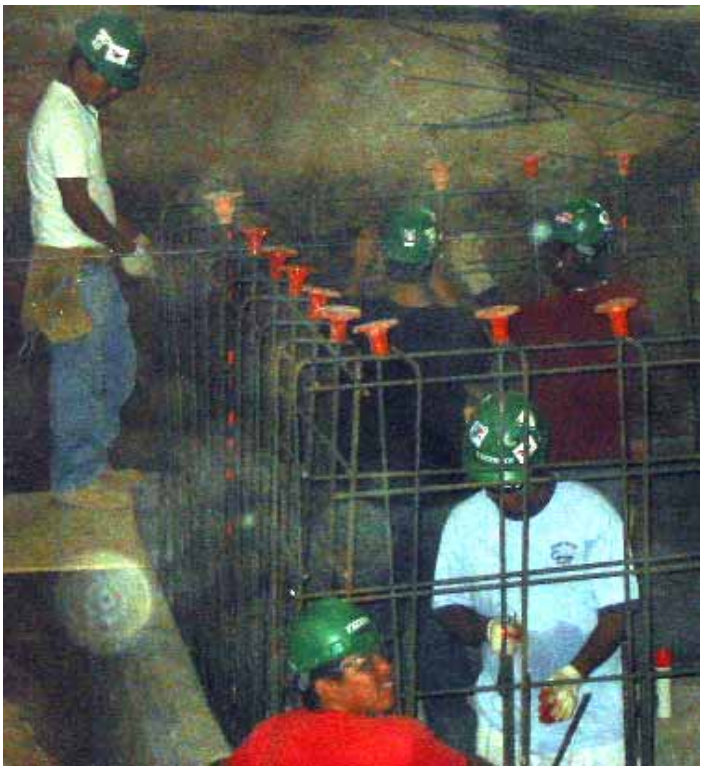
Individually, the projects are much smaller in terms of space than the one million-square-foot above ground wedges. But they are huge in terms of their importance to the Renovation Program and the tenants they serve. Woodson describes the seven projects as "all the little projects that help the pull the big projects together." In its own way, each project serves to enhance the security, life safety, efficiency and flexibility of the Pentagon.

Tenant relations and communication are vital to the success of any Ancillary Project. Many of the projects involve working around existing tenant spaces, or making changes to active systems without interrupting the efforts of Pentagon employees. "If people working in the building don't realize the project is going on, then we're doing a good job," says Woodson. But despite the need for unobtrusiveness, Woodson maintains that the Ancillary Project team actually enjoys a very close relationship with building tenants.

Each ancillary project presents a unique set of challenges that can loom large, especially given the quick turnaround for completion. The following project profiles provide a glimpse into the varied nature of each project and the reasons why Woodson asserts, "To work on the Ancillary Team, above all, you have to be flexible. Fifty percent of our workload probably hasn't even been planned yet so we have to be ready to undertake projects that aren't even on our radar screens."

Exterior Feeders

The mission of the one-year Exterior Feeders project is to provide the Pentagon with a more secure, efficient and robust power system. The endeavor will involve the installation of large electrical feeders to compliment existing power lines buried underground at various locations around the Pentagon. Aside from the challenge of having to tunnel in challenging areas around the building, this project requires the Ancillary team to make changes to the Pentagon's main switch house without disturbing any of the 25,000 Pentagon employees.



Early work on the General Purpose Switch Room Tunnel in the Pentagon basement.

PENTAGON RENOVATION PROGRAM
"Project Watch"

The Phoenix Project

With the outer facade completed on June 11, the focus has moved to the completion of the interior tenant fit-out construction.

Wedge 1 Recovery

Of the 4,600 tenants displaced, over 2,000 have been moved back into their Wedge 1 offices. A large number of tenants are scheduled to move back into Wedge 1 in mid-August.

Wedges 2-5

Demolition in Wedge 2 is now complete. SIPS construction has begun on the first 10,000 square feet of office space (see pg. 6)

Metro Entrance Facility

A direct pathway from the bus facility is on track to open July 31, 2002, ending the long walk Pentagon tenants have faced since September 11. Construction of the new entrance facility will be complete in November 2002.

Relocation of the National Imaging and Mapping Agency (NIMA)

The NIMA Relocation Project was the Renovation Program's first 8(a) *(contract given to small and disadvantaged businesses*) design-build project. Among the unique aspects of this project is the conversion of a loading dock into permanent mission critical office space. In just seven months, the Ancillary Project Team completed the project, which also included installing a redundant cooling system and emergency power, and moving and storing over 300,000 maps.

New General Purpose Switch Room (GPSR) Tunnel

In order to make the Pentagon's data and voice network more flexible, an extensive portion of tunnel beneath the Pentagon will be converted into a very large telephone closet. To accomplish this, the Ancillary Team will tunnel 12 feet below the basement level, connecting to the building infrastructure. The key challenge faced by the Ancillary Team is tunneling underneath the building without disturbing the current tenants.

Navy Build-Out

Many Navy tenants were displaced as a result of the terrorist attacks on September 11, 2001. In order to get these key personnel back into permanent space, the Ancillary Team is building permanent space in previously unused basement space. The space will be fully connected to other renovated segments in the basement. When tenants move into the new 35,000 square feet of office space, the Ancillary Team will be responsible for making sure they are protected from the noise and dust caused by future renovation activity. As with all of the Renovation Program's projects, a close working relationship with the tenant is essential for success.

Additonal Basement Segment Construction

The Ancillary team recently completed the demolition and abatement of additional basement space. In 3 months, 200,000 square feet have been completely cleared of debris and hazardous materials. The construction schedule for additional basement space has been accelerated to accommodate the congressional mandate to complete the renovation of the Pentagon by 2010, four years ahead of schedule.

HEATING & REFRIGERATION PLANT INTAKE/OUTFALL PROJECT

"PENREN'S BIG DIG"

Pentagon commuters who use the Boundary Channel Drive exit off I-395 by now have noticed the buzz of construction activity near the building's Heating and Refrigeration Plant (H&RP). The cranes, steel structures and large pipes are all part of the Intake/Outfall project, an initiative designed to ultimately enhance the performance and efficiency of the H&RP.

As the name suggests, the Intake/Outfall Project is a two-phased project. The Intake phase is the installation of a pipe, 8 feet in diameter, that will transport cool water from the Boundary Channel Lagoon to the H&RP. The new intake line will be installed 70 feet underground. The new pipes will increase water flow to the "chillers" in the H&RP. The larger volume of water is needed to bring the H&RP to maximum efficiency. "The lines we're using right now can't carry the amount of water needed to run the H&RP at full capacity," says Major Scott Redd, Intake/Outfall Team Leader for the Pentagon Renovation Program (PENREN). In the second phase, a new Outfall line will be built to carry water from the H&RP to the Roaches Run Waterfowl Sanctuary.

Like many of PENREN's ancillary undertakings, Intake/Outfall is a design-build project that has unique challenges and obstacles to completion. The most daunting challenge is the amount of underground digging. Numerous soil samples are taken during the digging process to determine the presence of clay, cobbles, and boulders that will interfere with the tunneling process.

Another challenge comes in a different, less "environmental" form. "Permitting has been very complicated on this job," explains Redd, who cites the numerous agencies and municipalities that are impacted by PENREN's "big dig." "The waters of the Potomac where the Intake structure is being built is owned by DC, the River bank is managed by the National Parks Service, and the land is owned by the Pentagon but structures must be approved by two historical commissions. The Outfall line leaves the Pentagon reservation and crosses County, and private properties and drains into a part of the Potomac that is owned by Virginia." Like with all other PENREN projects, the lines of communication remain open at all times.

A view of the bracing that supports the Intake/Outfall coffer-dam structure

Breaking ground on the new screen house facility, which will filter the river water before it gets to the chillers in the H&RP.

A view of the 70-foot deep Intake Shaft

An Introduction to *"The Renovators"*

The Pentagon Renovation Program, referred to internally as "PENREN," is an operation that relies heavily on teamwork for its success. Of the 396.5 core staff members, PENREN is comprised of approximately 15 percent government and 85 percent contractor personnel. The people challenged with renovating the nation's military headquarters are some of the best and brightest in their respective fields, including acquisition and contracting, architecture and engineering, construction management, occupational safety, information management and telecommunications, scheduling, relocation planning, and resource management. In addition, PENREN considers all stakeholders part of its essential team, including the Pentagon Building Management Office, Federal Facilities Division, Pentagon Force Protection Agency, Arlington County, historical commissions, and local advisory agencies that ensure the renovated Pentagon is *"On Cost, On Schedule, and Built for the Next 50 Years."* In this regularly scheduled column you will find stories of the individuals who keep the Renovation Program on track.

Tom Bay

Partner Integration Management Team Leader

Chief advocate of the tenant agencies and uniformed services, the Partner Integration Managers (PIMs), work with tenants to articulate their needs to PENREN. When Tom started two years ago with PENREN, he was the PIM for Navy and the Marine Corp. "Often I feel like a coach. I must take on two roles and represent PENREN while providing a voice for my tenants." Tom has over 20 years of design experience with a specialty in large-scale design projects, furniture procurement and installation.

Taya Miles

Partner Integration Manager, Army

Beginning as a fashion buyer in New York City, Taya later went on to formal training in interior design and facilities manage-ment. Taya ex-plains, "As in my previous position in corporate interiors, this role has its unique challenges. First and foremost, you have to communicate openly with your tenants. We help the agencies express what they want and ensure that PENREN delivers. One of the most unique aspects of this position is the element of personal contact with all elements of the design and construction disciplines. We ensure each tenant obtains space that maximizes their functionality."

Brenda Hoppe,

Partner Integration Manager, Joint Staff, Navy Operations Center

An Interior Designer by training, Brenda's position as PIM for Joint Staff and Navy Operations Center (NOC) is "challenging and certainly not monotonous," she explains. Brenda adds, "I really enjoy working with tenants to plan and design the space they will inhabit and use to perform mission critical tasks for years to come." Since joining PENREN two years ago, Brenda has been involved with furniture, tenant moves and design coordination. As the PIM for the new NOC, she served in the same capacity with the Navy Command Center which was severely damaged by the terrorist attack.

Diedre Lamb

Partner Integration Manager, Air Force, Navy and USMC

"I enjoy the extensive problem-solving required in this position," Diedre explains. Diedre is a member of the Pentagon Renovation "Boomerang Club" because this is her second time working for the program. She worked for PENREN from 1996-2000 in a similar capacity as conduit between tenant agencies and PENREN. She recalls, "That was before the position was officially designated 'Partner Integration Manager.' She is thrilled to be back with PENREN and supporting the tenants she is so fond of.

http://renovation.pentagon.mil

Please send questions, comments, concerns, kudos & complaints to **renovation@army.pentagon.mil** or visit the web site above.

Frequently Asked Questions:

Q: What is the Pentagon planning for September 11, 2002?

A: Plans are currently being developed to commemorate the one-year anniversary of the terrorist attack. The Pentagon is coordinating closely with representatives from the families of victims, the Pentagon Renovation Program, and other government agencies to design an appropriate program for the occasion.

Q: Where can I learn more about the Pentagon Memorial Project?

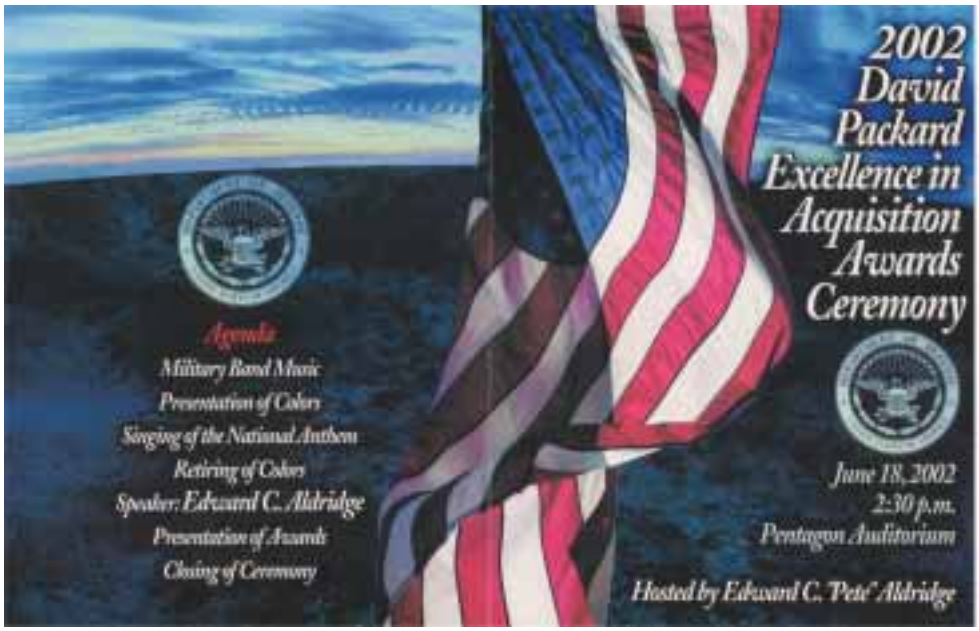
A: On June 11, 2002, the U.S. Army Corps of Engineers announced a design competition to honor the victims of the attack on the Pentagon. The competition is open to everyone who would like to participate. More information can be found on the Corps of Engineers project web site, *http://memorialcompetition.pentagon.mil*

Q: Will the Pentagon Renovation Program meet its goal of having the E-ring at the point of impact reoccupied by September 11, 2002?

A: ***YES!*** The Pentagon Renovation Program is currently three weeks ahead of schedule to meet this goal and well ahead of schedule to have the entire two million square feet of damaged space recovered by spring of 2003.

Pentagon Renovation Program Receives Packard Award for Acquisition Excellence

On June 18, 2002 the Pentagon Renovation Program was one of five Department of Defense organizations awarded the David Packard Excellence in Acquisition Award. The Pentagon Renovation Program has revolutionized a critical process in the largest industry in the country with outstanding results. In the days immediatly following September 11, the Pentagon Renovation Program awarded over $1.5 billion in contracts to begin immediate work on the recovery of damaged office space while proceeding with the increasingly important renovation of the rest of the Pentagon. During a press conference on June 11, 2002, Pentagon Renovation Program Manager, Lee Evey, stated, "In general, there are three things that characterize construction: cost overrun, schedule delay and litigation. On our program, we have not had cost overruns, we have not had schedule delay, and we have not had litigation. That makes us a little bit odd." The use of a design-build, fixed-price incentive-based contract with an award fee has proved very successful for Evey and the Renovation Program, causing the construction industry and the federal government to take notice.



The 2002 David Packard Award was presented to the Pentagon Renovation Program on June 18 for Acquisition excellence.

PENTAGON RENOVATION PROGRAM

Pentagon Renovation Program

*On Cost, On Schedule, Built for the **Next** 50 Years*

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Diana Hoag, former Acquisition and Contracting Group Leader for the Pentagon Renovation Program accepts the award from Edward C. "Pete" Aldridge, Under Secretary of Defense for Acquisition, Technology and Logistics (center). Hoag is surrounded by representatives of the 430 member team honored with the award.